

MIL-F-38299B(USAF)
14 December 1972
SUPERSEDING
MIL-F-38299A(USAF)
20 May 1970

MILITARY SPECIFICATION

FLUID, PURGING, FOR PRESERVING FUEL TANKS OF JET AIRCRAFT

1. SCOPE

1.1 This specification covers the requirements for a fluid for use in purging and preserving fuel tanks of jet aircraft before hangaring of aircraft for scheduled maintenance.

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

SPECIFICATIONS

Military

MIL-T-5624 Turbine Fuel, Aviation, Grades JP-4 and JP-5

STANDARDS

Federal

Fed. Test Method Lubricants, Liquid Fuels, and Related Products;
Std. No. 791 Methods of Testing

Military

MIL-STD-105 Sampling Procedures and Tables for Inspection by
Attributes
MIL-STD-290 Packaging, Packing and Marking of Petroleum and
Related Products

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

FSC 6850

MIL-F-38299B(USAF)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

American Society for Testing and Materials Publications

ASTM Standards on Petroleum Products, Parts 17 and 18

(Application for copies should be addressed to the American Society, for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.)

3. REQUIREMENTS

3.1 Materials. The purging fluid shall consist completely of hydrocarbon compounds except as specified herein.

3.2 Chemical and physical requirements. The chemical and physical requirements of the fluid shall conform to those listed in table I when tested in accordance with the applicable tests specified therein. Requirements contained herein are absolute and are not subject to correction for tolerance of test methods. However, if multiple determinations are made, those results falling within the tolerance of the test method shall be averaged.

3.3 Workmanship. The purging fluid shall be free from undissolved water, sediment, and suspended matter. No substances of known dangerous toxicity shall be added.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all the inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Quality conformance inspection. For acceptance purposes, individual lots shall be examined as specified herein and subjected to tests for all requirements cited in section 3.

4.3 Inspection lot

4.3.1 Bulk lot. A bulk lot shall consist of an indefinite quantity of a homogeneous mixture of material offered for acceptance in a single isolated container; or manufactured in a single plant run (not exceeding 24 hours) through the same processing equipment, with no change in ingredient material.

MIL-F-38299B (USAF)

* TABLE I. Chemical and Physical Requirements and Test Methods

Requirements	Fluid		Test Method ASTM Std
	Min	Max	
Distillation			D86
Initial boiling point, °F	425		
Fluid recovered, 10% at °F	<u>1/</u>		
Fluid recovered, 50% at °F	<u>1/</u>		
Fluid recovered, 90% at °F	<u>1/</u>		
End Point, °F		600	
Residue, vol. percent		2.0	
Distillation loss, vol. percent		1.5	
Specific Gravity, 60/60°F		0.840	D1298
Existent gum, mg/100 ml		7	D381
Sulfur, total, percent weight		0.4	D1266
Mercaptan sulfur, percent weight <u>2/</u>		0.001	D1219 or D1323
Freezing point, °F		-51	D2386
Heating value, Net heat of combustion, Btu/lb	18,000		D240
Viscosity, centistokes at 100°F		5.0	D445
Aromatics, volume percent		15.0	D1319
Flash Point, °F	200		D93
Copper strip corrosion, (2 hr at 212°F)		1b	D130
Particulate matter, mg/liter		1.0	D2276
Acidity, distillation residue		neutral	D1093
Color, Saybolt	+20		D156
Miscibility with MIL-T-5624 fuels		completely miscible	

1/ To be reported - not limited2/ The mercaptan sulfur determination may be waived at the option of the inspector if the fluid is "doctor sweet" when tested in accordance with the doctor test of ASTM D484.

MIL-F-38299B (USAF)

4.3.2 Packaged lot. A packaged lot shall consist of an indefinite number of 55-gallon drums or smaller unit containers of identical size and type, offered for acceptance, and filled with a homogeneous mixture of material from one isolated container; or filled with a homogeneous mixture of material manufactured in a single plant run (not exceeding 24 hours) through the same processing equipment, with no change in ingredient material.

4.4 Sampling

4.4.1 Sampling for verification of product quality. Each bulk or packaged lot of material shall be sampled for verification of product quality in accordance with ASTM method D270.

4.4.2 Sampling for examination of filled containers. A random sample of filled containers shall be selected from each lot in accordance with MIL-STD-105 at inspection level II and acceptable quality level (AQL) of 2.5 percent defective. The samples shall be examined in accordance with 4.6.3.

4.5 Inspection. Inspection shall be performed in accordance with method 9601 of Fed. Test Method Std. No. 791.

4.6 Examinations

4.6.1 Examination of product. Samples selected in accordance with 4.4.1 shall be visually examined for compliance with 3.3.

4.6.2 Examination of empty containers. Prior to filling, each empty unit container shall be visually inspected for cleanliness and suitability.

4.6.3 Examination of filled containers for delivery. Samples selected as specified in 4.4.2 shall be examined for conformance to MIL-STD-290 with regard to fill, closure, sealing, leakage, packaging, packing, and marking requirements. Any container having one or more defects or under the required fill shall be rejected. If the number of defective or underfilled containers exceeds the acceptance number for the appropriate plan of MIL-STD-105, the lot represented by the sample shall be rejected.

4.7 Test methods. Tests to determine conformance to the chemical and physical requirements shall be conducted in accordance with ASTM standards, using the applicable method as listed in table I.

5. PREPARATION FOR DELIVERY

5.1 Packaging and packing. Packaging and packing shall be in accordance with MIL-STD-290.

MIL-F-38299B(USAF)

5.2 Marking of shipments. Shipping containers shall be marked in accordance with MIL-STD-290 and, in addition, shall be marked with any special markings specified in the contract or order.

6. NOTES

6.1 Intended use. The purging fluid covered by this specification is intended for use in purging and preserving fuel tanks of jet aircraft before hangaring and conducting maintenance operations.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number, and date of this specification
- b. Quantity required and size containers desired
- c. Any special marking required
- d. The laboratory where tests are to be conducted, if required.

6.3 The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, and deletions) were made. This was done as a convenience only, and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodian:
Air Force - 11

Preparing activity:
Air Force - 11

Review activity:
Air Force - 68

Project No. 6850-F472